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A COMPARATIVE STUDY OF TRADITIONAL AND AI SUPPORTED TEACHING METHODS, ENHANCING LANGUAGE LEARNING AND TEACHING THROUGH ARTIFICIAL INTELLIGENCE IN PAKISTANI UNIVERSITIES

Athar Abbas atharabbasgilani@gmail.com	MPhil Scholar, Department of English, University of Sahiwal, Sahiwal , Punjab, Pakistan.
Iqra Fatima Iqrach4956@gmail.com	MPhil Scholar, Department of English, University of Sahiwal, Sahiwal , Punjab, Pakistan.
Syeda Smavia Syedasmavia000@gmail.com	MPhil Scholar, Department of English, University of Sahiwal, Sahiwal , Punjab, Pakistan.

Abstract

This study examines the role of Artificial Intelligence (AI) in language teaching compared to traditional methods. It highlights the limitations of conventional approaches, such as one-size-fits-all instruction and limited engagement, and explores how AI tools like Chatgpt, Duolingo, and Grammarly address these gaps through personalized learning paths, real-time feedback, and interactive content. The research employs a comparative design, collecting data from diverse age groups and educational levels to assess AI's impact on motivation, engagement, and skill acquisition. The data for this study is collected from the universities of Pakistan. Findings reveal that AI-driven platforms significantly enhance language learning by offering flexible and tailored experiences, though some learners still value the personal touch of traditional teaching methods. The study underscores the importance of integrating AI tools with conventional approaches to create a balanced, effective learning environment.

Keywords: *AI in Education, Language Teaching Methods, Personalized Learning, AI-driven Language Tools, Traditional and AI-assisted Learning, Student Engagement and Motivation*

Corresponding Author: Athar Abbas (MPhil Scholar, Department of English, University of Sahiwal, Sahiwal , Punjab, Pakistan).
Email: atharabbasgilani@gmail.com

1. Introduction

We all know that teaching and learning a language has always been a process full of hurdles. Even though older methods have changed, the nature of learners, the size of the class and uniformity in instructional methods are still rendering language instruction to be less effective. The aim in these cases is often only to deliver the lesson in the best way possible, and unfortunately to not single everyone out because the class size is overwhelming for the instructor. But even so, attentions span and changes in routine allow learners to create their attention to be mediocre at best and fully grasp the potential of the language that they are learning in Richards and Rodger's terms, and the goals set for them within the traditional classroom framework remain unmet. The methods are often are still ineffective as they do not cover the necessary amount of learner's pace or learning styles which then drives learners away from the course.

This is where Artificial Intelligence (AI) comes into play and promises a new angle for dealing with the challenges of language teaching. It seems that within the last 10 years there has been a clear trend of AI actively integrating into the variety of spheres and education isn't an exception. The introduction of AI-based tools and teaching platforms is creating a new reality of foreign language education. For example, NLP technologies already help to realize individualized approach to the language learning to the new level as various algorithms allow to change the learning content based on real-time updates.

These tools can be leveraged to impart prompt suggestions on grammar or pronunciation, vocabulary or usage adjustment making, the content more aligned with the content learning patterns of the student (Lu et al., 2022). They would never be able to include such specific strengths and beautiful nuances with regards to the student as AI does.AI TUTOR In the language learning and teaching, Chatgpt, Duolingo, Grammarly type of AI were already, when I started graduate teaching at Tsukuba, Learning Progress.The life outside of the classroom for Language learners places in situation where they should also produce what they have been learning and perhaps even retain it.ai systems are exposing learners to data in such a manner whereby they are able to learn better and faster than what could happen within a conventional classroom.Akshat Sharma, undergraduate student, assists children in learning languages.

There is no question that AI will play a pivotal role in language training and teaching as this role further develops. The consideration is no longer if AI can help improve language teaching however is instead what real options do AI offers to learn a language this reconsiderations also the standard of conventional methods. This paper sets out to make this comparison, evaluating the comparative performance of AI tools as well

as traditional tools as regards the degree of engagement that students have, the effectiveness achieved and the results, in other words the language that is acquired.

Aim of this research is to understand the benefits of AI driven language teaching methods in comparison to normal language teaching methods. With the comparison of these two different approaches, we try to see how AI can further improve the process of learning.

1.1. Research Objectives

- To investigate whether students studying with AI-assisted language learning techniques perform better than those taught through conventional strategies.
- To look at the motivation and level of engagement of students using AI as well as those who learn in ordinary classrooms.
- To comprehend the overall contribution of the AI tools with respect to language use.
- The purpose of this research is to throw light on the effectiveness of AI tools in education and bring out the possible advantages they have in language teaching in future.

1.2. Research Questions

1. What benefits do AI tools offer for language learning that traditional methods do not?
2. How do students perceive AI-driven language learning?
3. Can AI-based teaching methods lead to better learning outcomes compared to traditional teaching methods?

2.Literature Review

In perspective of the Language education, it has been evolving day by day integrating new strategies and approaches which were specifically designed to meet the requirements of learners. However the extensive focus on creativity and variety of language learners' needs did not exist. Methods such as the Grammar –Translation Method placed excessive emphasis on vocabulary and grammar. This tended to be effective in terms of reading and writing although speaking and listening were not as effective. Later on the language teaching started to develop towards use of language which in most cases was the target language until the Direct Method was created. The latter focuses on the spoken language and hearing (Larsen-Freeman 2000: 14). The other notable method is the

Communicative approach which used a combination of vocabulary and grammar to target communication. At the same time grammar was not the focus, rather communication was the focus if the language (Littlewood, 2004). However, looking at the 21st-century education system, various works are still to be done including catering to individualized approaches and time management.

The increasing attention towards technology and instructional design lead to the acceptance of new modes of teachings that is Blended Learning and Flipped Classroom. This in effect increases the importance of directed learning as well as in person interactions. The impact on these new methods on language teaching on the other hand are unapparelled leaving opportunities for learners to practice outside the traditional classroom setting.

2.1. Overview of AI in Education

Artificial Intelligence (AI) in education refers to the use of algorithms, machine learning, and other AI technologies to enhance the learning experience. According to "Luckin et al. (2016)", AI systems are capable of adapting content to suit the learner's individual needs, providing personalized experiences and instant feedback. The scope of AI in education extends beyond language learning, with applications including adaptive learning platforms, personalized tutoring, and intelligent chatbots designed to assist in various subjects (Baker et al., 2019). These tools aim to make learning more accessible, efficient, and tailored to the needs of individual students.

AI applications like **adaptive learning systems** adjust the difficulty of content based on a learner's performance, while chatbots facilitate interactive learning environments by responding to students' questions in real-time. AI is also being integrated into assessment tools, where algorithms analyze student responses and provide real-time grading and feedback, thereby reducing the burden on teachers and ensuring that students receive immediate, meaningful input.

2.2. AI in Language Teaching

AI has made significant strides in the field of language education, with various tools now available to enhance the learning experience. One of the most popular AI-driven language learning apps is "Duolingo", which uses algorithms to personalize lessons based on a learner's progress (Vesselinov & Grego, 2012). These apps provide students with bite-sized lessons, quizzes, and real-world conversations, allowing them to practice and learn

on their own time. “Babbel”, another leading app, similarly adapts to individual learning styles, focusing on speaking, listening, and writing skills. AI has enabled these platforms to provide language learning that is not only interactive but also personalized, a significant departure from traditional classroom learning.

Another key development in AI-driven language learning is the use of Natural Language Processing (NLP). NLP allows AI systems to understand and analyze human language in real time, enabling more accurate feedback and error correction **(López & García-Serrano, 2020).** This technology is integrated into various AI language tools, such as grammar checkers and pronunciation guides, to provide instant, accurate corrections. Personalized feedback systems also use NLP to identify recurring errors and offer targeted suggestions, which can significantly improve language learning outcomes.

AI is also enhancing the traditional feedback process. Tools like *Grammarly* and *ProWritingAid* offer real-time error correction, explaining not just what the mistake was but also how to fix it. This personalized error correction, powered by AI, helps students understand their mistakes and learn from them in ways that traditional methods may not.

2.3. Comparative Studies

Several studies have compared traditional language teaching methods with AIassisted approaches. **Vesselinov & Grego (2012)** conducted a study on the effectiveness of Duolingo in language learning, comparing it with traditional classroom instruction. Their findings revealed that students using Duolingo showed significant improvement in language skills, especially in vocabulary and grammar, compared to those relying solely on traditional methods.

In a study by **Huang et al. (2020)**, AI-powered language learning tools were compared with conventional teaching methods in terms of learner engagement and retention. The researchers found that AI tools fostered a more engaging learning environment by offering interactive content, real-time feedback, and personalized challenges. This contrast with the traditional method of instruction, which was often more passive and one-size-fits-all, made AI-driven learning a more appealing and effective choice for many students.

Furthermore, **Heffernan et al. (2014)** compared the effectiveness of AI-driven language learning apps like Rosetta Stone with traditional face-to-face teaching methods. Their study found that while traditional methods offered valuable teacherstudent interaction, AI-based tools enabled students to progress at their own pace and receive personalized feedback, which led to improved language acquisition over time.

Another study by **Wang et al. (2018)** focused on the impact of AI in personalized language learning. They concluded that personalized learning paths, powered by AI, led to better student motivation and faster progress in language learning compared to traditional methods. These personalized experiences allowed students to feel more in control of their learning, a factor often missing in traditional classroom settings.

Nassaji (2020) explored how AI-powered platforms support language learners by simulating real-life conversations and providing targeted feedback. This study highlighted the advantage of AI in creating immersive, interactive experiences that closely mirror real-world language use, an area where traditional methods often fall short.

3. Methodology

This study adopts a **comparative research design** to explore the effectiveness of traditional language teaching methods versus AI-driven approaches in language learning. By comparing these two methods, the study aims to identify the strengths and weaknesses of each approach, providing valuable insights into how AI can enhance language learning. The research is conducted using a quantitative method, as each approach offers unique strengths for understanding different aspects of language teaching and learning.

The quantitative component involves a survey-based approach to gather measurable data on students' language proficiency, engagement, and satisfaction with both traditional and AI-driven methods.

3.1. Data Collection

The participants for this study are language teachers and learners from Pakistani Universities. This diversity provides a comprehensive view of the effectiveness of AI in language teaching across different contexts. The selection of both teachers and learners allows the study to examine the perspective of those delivering the instruction and those receiving it, offering a more complete picture of the language teaching environment.

3.1.1. Data Collection Tool

The data collection tools will include:

Survey (Questionnaire): Closed-ended questions are used in the surveys to collect quantitative data. These questions assess learners' language proficiency, engagement levels, and satisfaction, these close-ended questions provide more detailed insights into their experiences with the different teaching methods.

3.2. Data Analysis

The analysis of the collected data involves **statistical analysis.**

Statistical Analysis: The data from the survey is analyzed using statistical techniques such as descriptive statistics (mean, median, standard deviation) to understand the general trends in the effectiveness of the two teaching methods.

3.2.1. Age:

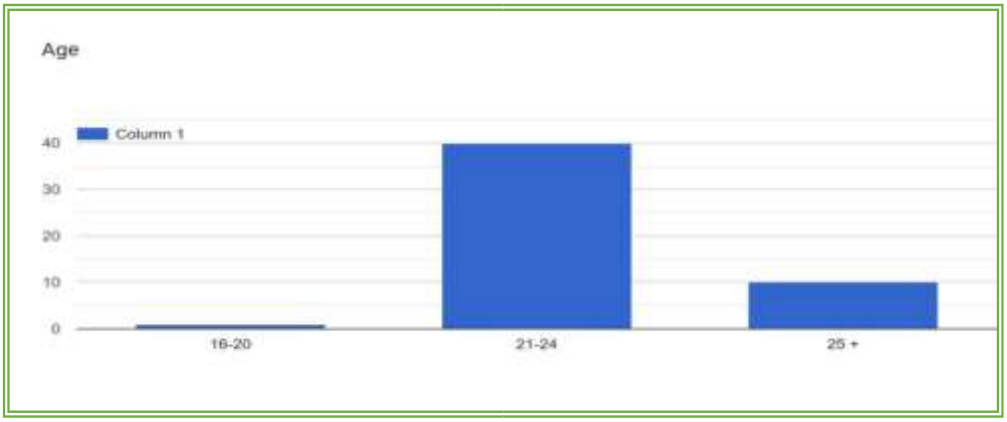
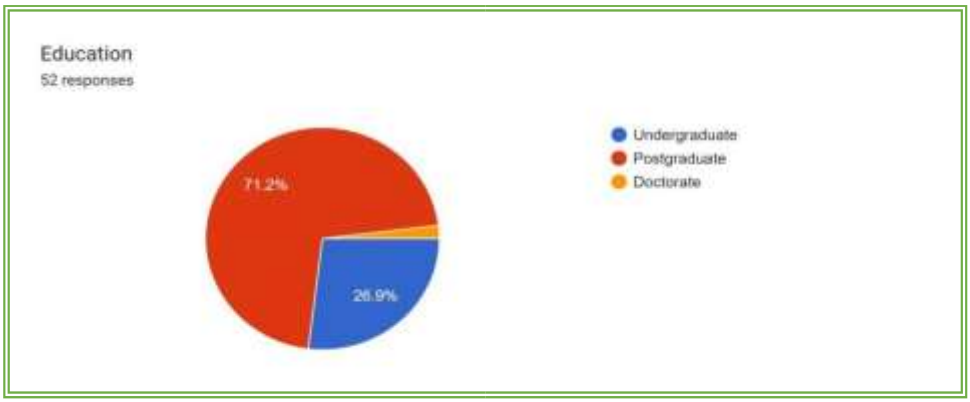


***Figure 1:The graph shows the age distribution of participants who responded to the survey*:**

- **16–20 years:** Only 1 student responded in this age group. This shows that very few younger participants took part in the survey.
- It's possible that students aged **(16–20)** are not using AI tools yet or don't feel the need for them at this stage. Younger students may still be focusing on traditional learning methods and haven't started using advanced digital tools like AI for improving their skills.
- **21–24 years:** The majority of the responses came from this group, with 40 students participating. This suggests that most participants are young adults in their early 20s. **25+ years:** A smaller group of 10 students responded in this category. This shows that some older participants also took part, but they are fewer compared to the 21–24 group.

3.2.2. Education

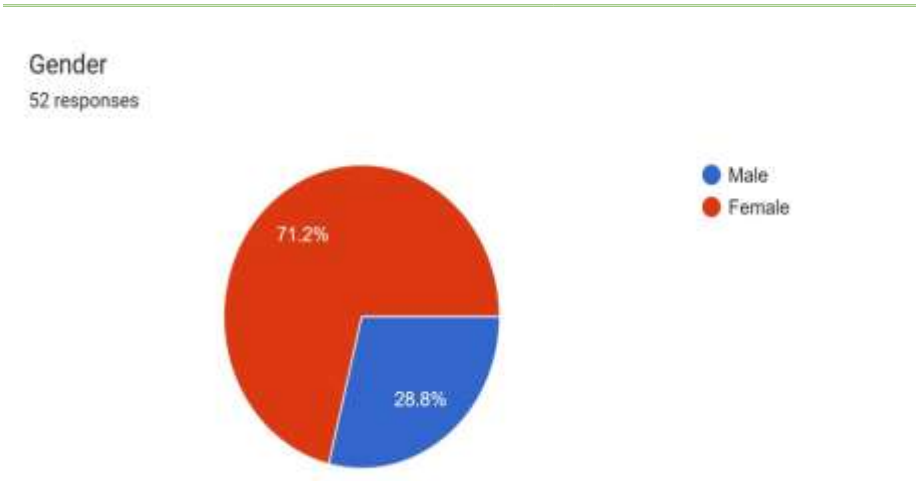


This chart shows the education levels of 52 respondents:

- Postgraduate students (71.2%) make up the largest group.
- Undergraduate students (26.9%) are the second-largest group.
- A small percentage of respondents are pursuing a Doctorate.

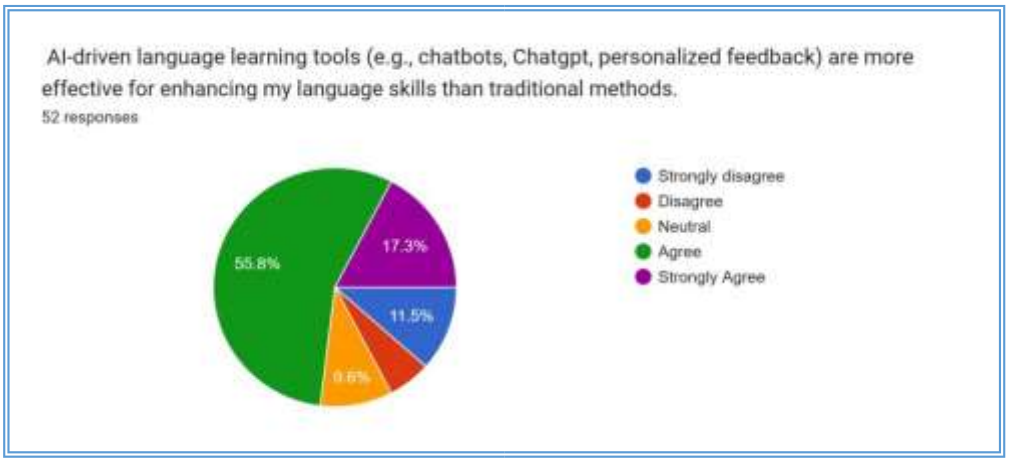
This indicates that most of your participants are postgraduate students, which could explain why they are more engaged with topics like AI tools. Postgraduates are typically involved in research and advanced studies, where they might use digital tools more often compared to undergraduates or doctoral candidates.

3.2.3. Gender:



The gender distribution chart of 52 responses reveals a significant imbalance, with a majority of respondents identifying as female (71.2%) and a smaller proportion as male (28.8%).

3.2.4. Question 1:

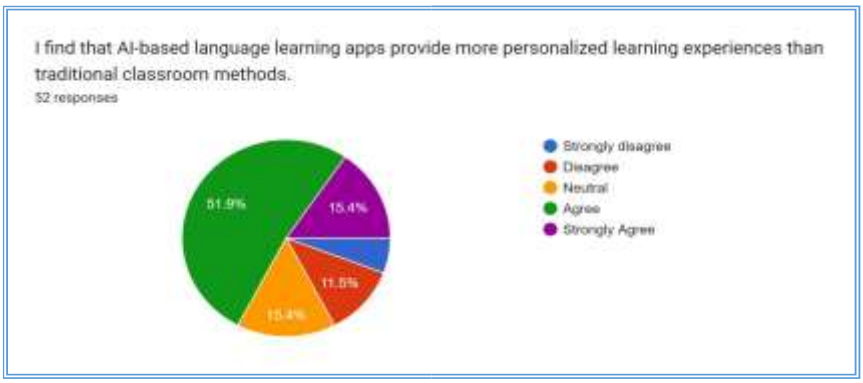


The responses show that 73.1% of participants agree or strongly agree that AI-driven tools (e.g., Chatgpt) are more effective for enhancing language skills than traditional methods. This indicates a "positive perception" of AI tools' role in language learning.

In contrast, 17.3% (strongly disagree + disagree) do not find AI tools more effective, while 9.6% remain neutral, showing a small level of uncertainty.

The overwhelming agreement highlights the growing acceptance and perceived effectiveness of AI tools in modern language learning, emphasizing their potential to offer personalized and engaging learning experiences.

3.2.5. Question 2:

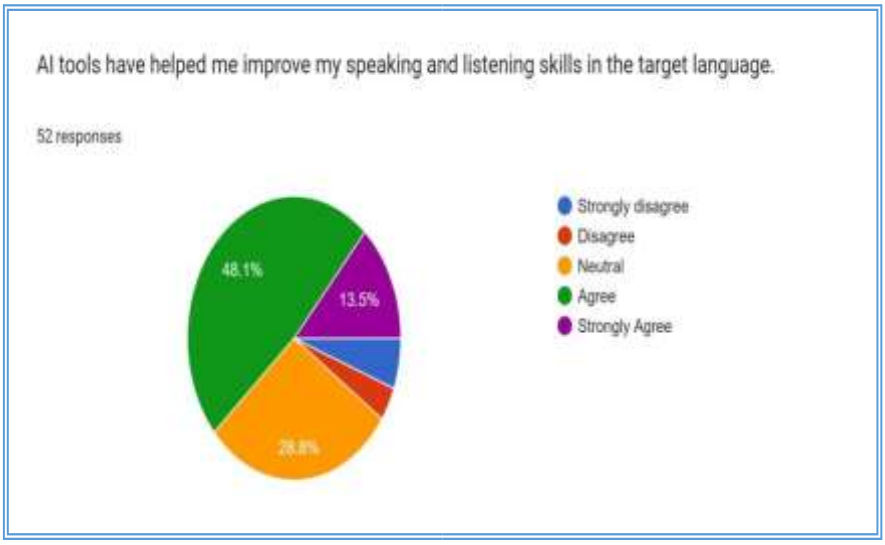


The responses indicate that 67.3% of participants agree or strongly agree that AIbased language learning apps provide more personalized learning experiences compared to traditional classroom methods. This suggests a positive view of AI's ability to tailor language learning to individual needs.

However, 17.3% (strongly disagree + disagree) do not agree with this statement, while 15.4% remain neutral, showing some variation in opinions.

The majority of respondents recognize the potential of AI apps to offer personalized learning, highlighting their adaptability and individual-focused approach. However, a portion of participants remains uncertain or disagrees, possibly due to concerns about the effectiveness or limitations of AI compared to traditional learning methods.

3.2.6. Question 3:



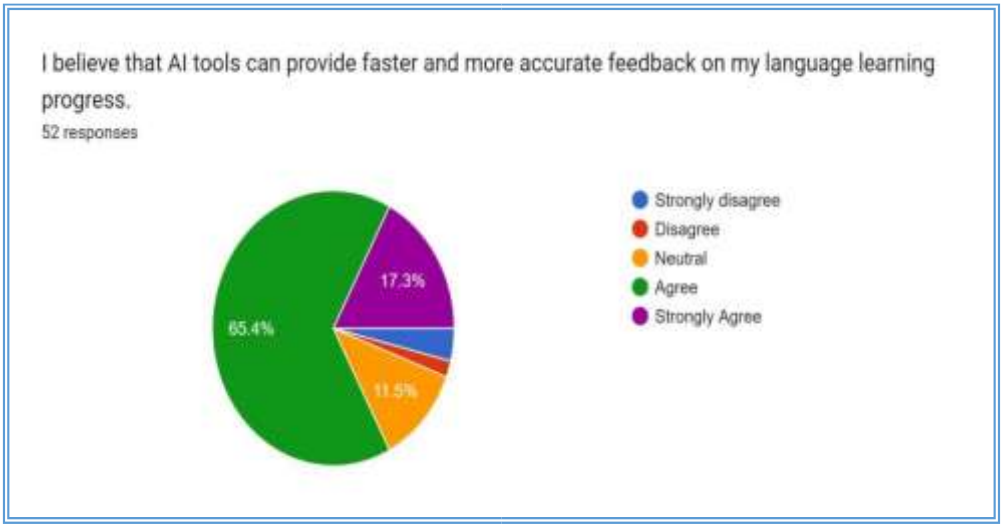
The responses show that 61.6% of participants agree or strongly agree that AI tools have helped improve their speaking and listening skills in the target language. This indicates a generally positive perception of AI tools' role in developing these skills.

However, 9.6% (strongly disagree + disagree) do not share this view, and a significant. 28.8% remain neutral.

While most respondents acknowledge the benefits of AI tools in enhancing speaking and listening skills, the high percentage of neutral responses suggests that some learners may not have experienced noticeable improvements or have not fully utilized AI

tools for these skills. This could reflect varying levels of engagement with AI tools or differences in learning preferences.

3.2.7. Question 4:

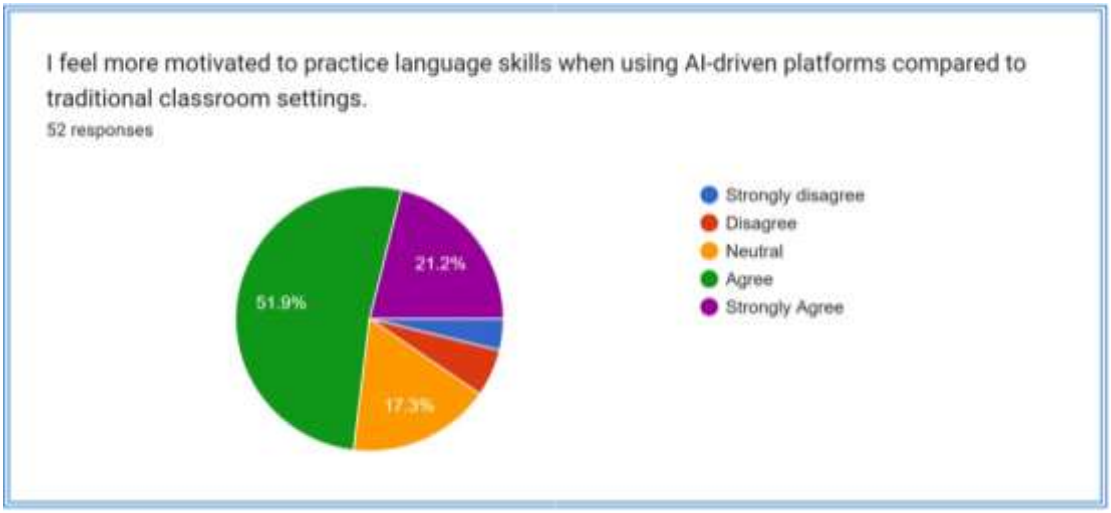


The chart shows that “67.3%” of respondents agree (51.9%) or strongly agree (15.4%) that "AI-based language learning apps provide more personalized learning experiences" compared to traditional classroom methods. This reflects a strong positive perception of AI tools for tailoring learning to individual needs.

On the other hand, “11.5%” of participants disagree and "5.8%" strongly disagree, indicating a small group that does not find AI tools effective for personalization. Meanwhile, "15.4%" of respondents remain neutral, suggesting that some learners may not have experienced significant personalization benefits or have mixed opinions.

The majority of learners recognize the personalized advantages of AI-based apps, showing their effectiveness in meeting individual learning needs. However, the presence of neutral and disagreeing respondents highlights that not all learners find these tools equally beneficial, possibly due to varying preferences, experiences, or limited exposure to AI-based learning methods.

3.2.8. Question 5:

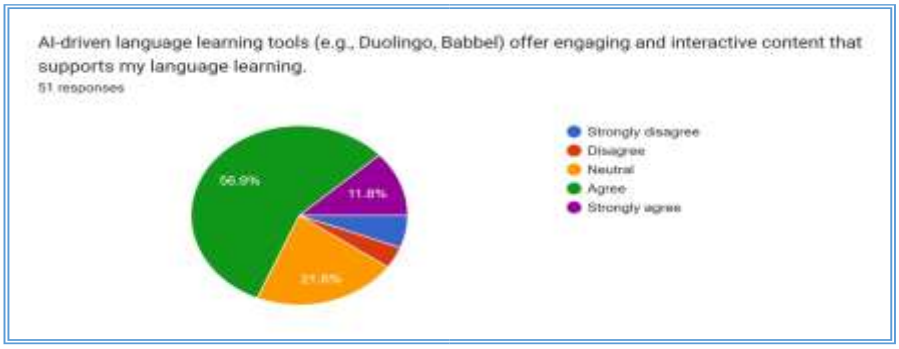


The chart shows that 73.1% of respondents agree (51.9%) or strongly agree (21.2%) that AI-driven platforms increase their motivation to practice language skills compared to traditional classroom settings. This indicates that a significant majority find AI tools more engaging for language practice.

However, 17.3% of respondents are neutral, suggesting they do not see a clear difference between AI platforms and traditional classrooms in terms of motivation. Meanwhile, 5.8% disagree, and 1.9% strongly disagree, indicating a small group of learners who do not find AI platforms motivating.

The results highlight a strong positive perception of AI-driven platforms for enhancing motivation in language learning. However, the neutral and disagreeing responses suggest that these tools may not work equally well for all learners, possibly due to individual learning preferences or experiences.

3.2.9. Question 6:

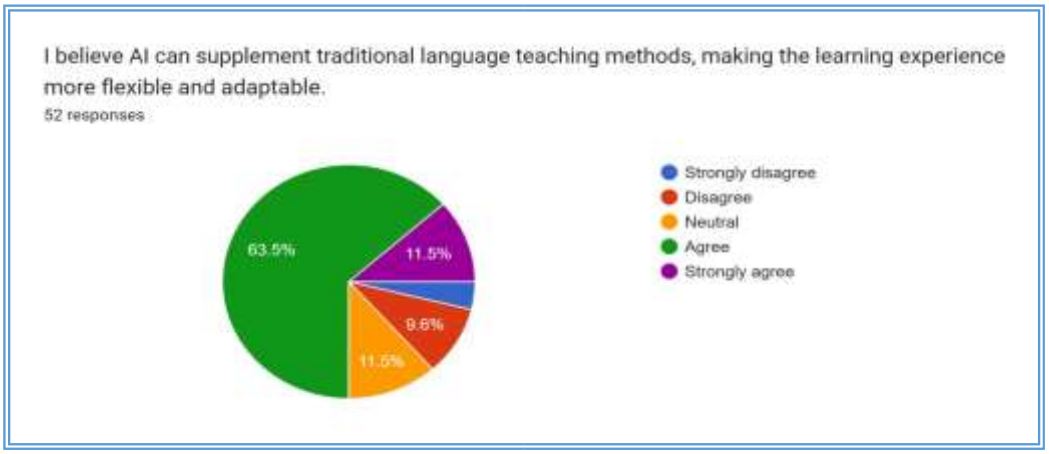


The chart reveals that 68.7% of respondents agree (56.9%) or strongly agree (11.8%) that AI-driven language learning tools like Duolingo and Babbel provide engaging and interactive content that supports language learning. This demonstrates a strong positive perception of these tools' ability to make language learning more engaging.

Meanwhile, 21.6% of respondents remain neutral, indicating they neither find these tools particularly engaging nor disengaging. A small percentage of participants disagreed (3.9%) or strongly disagreed (5.8%), showing minimal dissatisfaction with the interactive nature of AI-driven platforms.

The majority of learners recognize AI tools as beneficial for engaging and interactive language learning, though a notable portion remains neutral. This may suggest that while AI platforms work well for many learners, they may not fully cater to everyone's learning style or preferences.

3.2.10. Question 7:

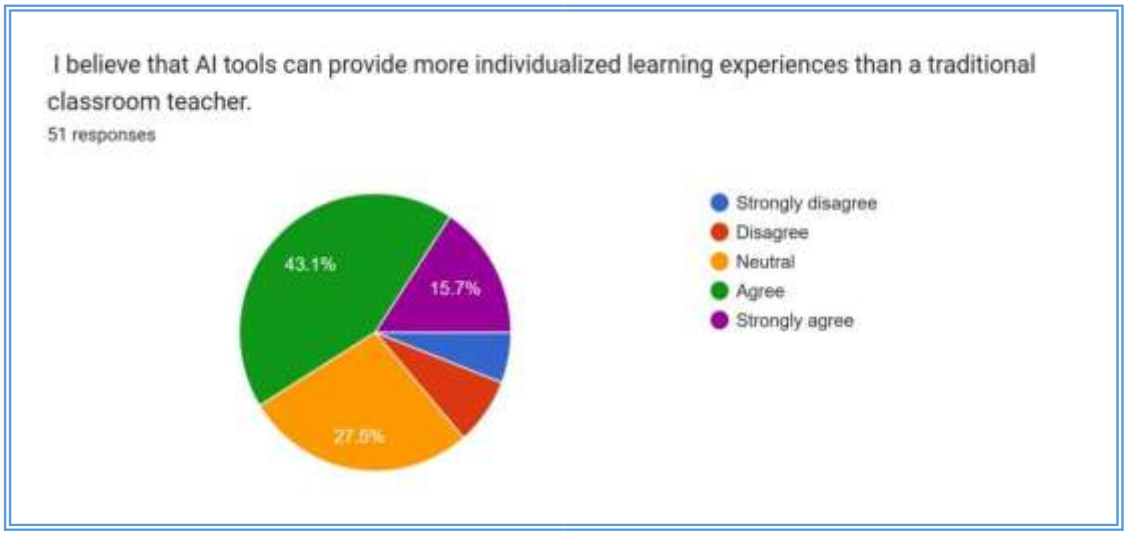


The chart shows that a significant majority of respondents believe AI can supplement traditional language teaching methods, making the learning experience more flexible and adaptable. Specifically, 63.5% agree, and 11.5% strongly agree, highlighting a positive perception of AI's role in improving language education.

However, 11.5% of respondents remain neutral, suggesting they do not see a clear advantage of AI over traditional methods. Meanwhile, 9.6% disagree, and 3.8% strongly disagree, indicating a small group that does not find AI effective in enhancing flexibility and adaptability.

The results demonstrate that 75% of respondents perceive AI positively, recognizing its potential to support traditional teaching approaches. However, the presence of neutral and disagreeing responses, totaling around 25%, suggests that not all learners experience these benefits equally. This could be due to individual preferences, limited exposure to AI tools, or skepticism about their effectiveness. While the overall outlook is positive, further efforts may be needed to address these concerns and ensure AI tools cater to a wider range of learning needs.

3.2.11. Question 8:



The chart shows that respondents have mixed views about whether AI tools can provide more individualized learning experiences than a traditional classroom teacher. A significant portion of respondents, 43.1%, agree that AI tools offer more individualized learning, while 15.7% strongly agree, showing that a majority (58.8%) hold a positive perception of AI's ability to tailor learning experiences.

However, 27.5% of respondents remain neutral, indicating uncertainty or a lack of clear distinction between AI tools and traditional teaching methods. Meanwhile, 7.8% disagree and 5.9% strongly disagree, reflecting a minority that does not see AI tools as more effective in providing individualized learning.

The results indicate that while a majority of respondents view AI tools as effective for creating personalized learning experiences, a significant portion remains neutral, possibly suggesting skepticism or limited exposure to such tools. The combined

disagreement (13.7%) highlights that some learners still prefer or value the individualized support provided by traditional classroom teachers. This suggests that while AI holds promise, it may not yet fully replace or surpass traditional approaches for all learners.

4. Discussion

The purpose of this study was to see how effective AI tools are in improving language learning compared to traditional methods. The survey results show that most participants have a positive opinion about AI-based tools, although a few still prefer traditional ways of learning.

4.1. Age Group

Most of the participants were between 21 to 24 years old. This shows that young adults are more comfortable using AI tools, likely because they are more familiar with technology. Very few participants were from younger age groups, which suggests they may still depend on traditional learning methods. A small number of PHD students also showed interest in using AI tools, but their participation was lower compared to younger learners.

4.2. Education Level

The majority of the students who responded were postgraduate students. This shows that students at higher education levels are more likely to use advanced tools like AI for learning, especially when working on research or independent studies. There were fewer undergraduate and doctoral students in the survey.

4.3. Effectiveness of AI Tools

Most participants agreed that AI tools like Chatgpt are more helpful for improving their language skills compared to traditional methods. However, some students either disagreed or were unsure, which means that not everyone found these tools equally useful.

4.4. Personalized Learning

Many participants felt that AI tools provide learning experiences that match their individual needs better than traditional classrooms. This shows that AI tools are flexible

and can adjust to a learner's pace. Still, a few students did not notice this benefit or preferred the structure of traditional teaching.

4.5. Speaking and Listening Skills

A good number of students said that AI tools helped improve their speaking and listening skills. However, some students did not notice much improvement, possibly because they had not used these tools enough or did not find them helpful for these skills.

4.6. Motivation to Learn

Most participants said that AI tools make them feel more motivated to practice language skills. This suggests that these tools make learning fun and engaging. However, a small number of students did not feel the same way, which shows that AI tools may not be equally effective for everyone.

4.7. Interactive Content

Many students said that AI tools provide content that is engaging and interactive, which helps with learning. However, some students remained unsure or disagreed, which means that traditional methods might still work better for them.

4.8. Flexibility of AI Tools

A majority of the students believed that AI tools can make the learning process more flexible and adaptable. This means learners can practice whenever and however they like. Still, a few students did not find this flexibility useful and preferred the fixed structure of traditional classrooms.

4.9. AI Tools vs. Teachers

Opinions were divided on whether AI tools are better than traditional teachers for providing individual support. While many participants said AI tools were helpful, others either disagreed or were not sure. This shows that some learners still value the personal guidance of a teacher.

AI tools offer personalized, flexible, and engaging learning. Most students (73.1%) find AI more effective for improving language skills, and 67.3% agree it tailors lessons to individual needs. AI also keeps learners motivated and interactive.

Students have a positive view of AI learning. A majority believe it improves language skills, offers personalized learning, and makes learning engaging. However, some remain unsure or prefer traditional methods.

Yes, AI tools improve language skills and motivation. Most learners (61.6%) report better speaking and listening skills, and 73.1% find AI platforms more motivating. However, some students see little difference or prefer traditional methods.

5.Conclusion

This research demonstrates the transformative potential of AI in language teaching compared to traditional methods. While traditional teaching methods have long been effective in building foundational language skills, they often lack the adaptability and personalized engagement needed for diverse learner needs. AI-driven tools, with their real-time feedback, personalized learning paths, and interactive experiences, address these gaps by tailoring instruction to individual progress and preferences.

Comparative studies and data highlight that AI enhances learner motivation, engagement, and outcomes, offering flexibility and efficiency that traditional methods struggle to match. However, traditional methods still hold value in fostering interpersonal communication and teacher-student interaction, which remain critical in language acquisition. This study underscores the importance of integrating AI tools with traditional approaches to create a more balanced, effective, and personalized language learning environment.

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